BRAIN RESEARCH BULLETIN

VOLUME 16 NUMBER 1 JANUARY 1986

CONTENTS

Articles

The sialagogue response of striatal dopamine receptors to L-dopa is not influenced by castration or chronic estrogen treatment.
PAZO, J. H., M. GOMEZ-GONZALES, O. R. TUMILASCI, P. O'DONNELL and G. MURER 1

Dimethylphenylpiperazinium-induced vomiting: Nicotinic mediation in area postrema.
BELESLIN, D. B. and S. K. KRSTIĆ 5

Ontogeny of adrenomedullary responses to hypoxia and hypoglycemia: Role of splanchnic innervation.
SEIDLER, F. J. and T. A. SLOTKIN 11

Role of bar press-related neurons in the dorsolateral prefrontal cortex during task performance by monkey.
INOUE, M., Y. OOMURA, H. NISHINO and S. K. SIKDAR 15

Timm's method modified for human tissue and compatible with adjacent section histofluorescence in the rat.
CHAFETZ, M. D. 19

Dopamine dependent behaviours in rats with bilateral ibotenic acid-induced lesions of the globus pallidus.
AVDELIDIS, D. and C. SPYRAKI 25

Activation of specific central dopamine pathways: Locomotion and footshock.
SPECIALE, S. G., J. D. MILLER, B. A. McMILLEN and D. C. GERMAN .. 33

Lordosis-disrupting tectal lesions alter midbrain unit somatosensory responsiveness in hamsters.
ROSE, J. D. and M. D. HAVENS 39

Alterations in noradrenergic innervation of the brain following dorsal bundle lesions in neonatal rats.
KLISANS-FUENMAYOR, D., C. T. HARSTON and R. M. KOSTRZEWA 47

Amygdaloid lesions attenuate neurogenic gastric mucosal erosions but do not alter gastric secretory changes induced by intracisternal bombesin.
GRIJALVA, C. V., Y. TACHÉ, M. W. GUNION, J. H. WALSH and P. J. GEISELMAN 55

Reserpine-induced effects in the adrenergic neuron as studied with cytofluorimetric scanning.
LARSSON, P.-A., S. BÖÖJ, K. LUNDMARK, M. GOLDSTEIN and A. DAHLSTRÖM 63

Quantitative autoradiography of ^{125}I-[Sar^1, Ile^8]-angiotensin II binding in the brain of spontaneously hypertensive rats.
HWANG, B. H., J. W. HARDING, D. K. LIU, L. S. HIBBARD, C. M. WIECZOREK and J.-Y. WU 75

Localization of responses in the somatosensory thalamus of the rat.
CROPPER, E. C. and J. S. EISENMAN 83

Contents continued

Increased vasopressinergic activity following DOCA administration in the rat.
CHEN, Y.-F., M. D. LINDHEIMER and S. OPARIL 93

α-Melanocyte-stimulating hormone infused ICV fails to affect body temperature or endotoxin fever in the cat.
REZVANI, A. H., D. M DENBOW and R. D. MYERS 99

Lateral hypothalamic innervation of the cerebral cortex: Immunoreactive staining for a peptide resembling but immunochemically distinct from pituitary/arcuate α-melanocyte stimulating hormone.
SAPER, C. B., H. AKIL and S. J. WATSON 107

Brief Communications

Comparison of rostro-caudal brain stem influence on preoptic neurons and cortical EEG.
MALLICK, B. N., V. MOHAN KUMAR, G. S. CHHINA and B. SINGH 121

An excitatory amino acid projection from rat prefrontal cortex to periaqueductal gray.
CHRISTIE, M. J., L. B. JAMES and P. M. BEART 127

Laboratory Instrumentation and Computing

An automatic device for determining threshold variations in antidromically activated neurons.
CINELLI, A. R. and H. FERREYRA-MOYANO 131

Integration of data obtained at fixed intervals.
CARNEVALE, N. T. 137

Announcements 143

BRAIN RESEARCH BULLETIN

VOLUME 16 NUMBER 2 FEBRUARY 1986

CONTENTS

Articles

Dissociation of the effects of castration and testosterone replacement on sexual behavior and neural metabolism of dopamine in the male rat.
BAUM, M. J., E. MELAMED and M. GLOBUS 145

**Release of newly synthesized ^{3}H-dopamine in the striatum:
An adaptation of the push-pull cannula method to awake restrained and anesthetized rats.**
SAVAKI, H. E., J.-A. GIRAULT, U. SPAMPINATO, N.-A. TRUONG, J. GLOWINSKI and M.-J. BESSON 149

Variation in the ability of neuroleptics to block the inhibitory influence of dopaminergic neurons on the activity of cells in the rat prefrontal cortex.
THIERRY, A. M., C. LE DOUARIN, J. PENIT, A. FERRON and J. GLOWINSKI 155

Apomorphine and haloperidol effects on striatal ^{3}H-dopamine release in anesthetized, awake restrained and freely moving rats.
SPAMPINATO, U., J.-A. GIRAULT, J. DANGUIR, H. E. SAVAKI, J. GLOWINSKI and M.-J. BESSON 161

Loss of ^{3}H-corticosterone binding capacity in hippocampal slices maintained *in vitro*.
HALPAIN, S., T. SPANIER and B. S. McEWEN 167

Interactions between the duration of stimulation and noradrenaline on cholinergic transmission in the myenteric plexus-smooth muscle preparation.
KADLEC, O., G. T. SOMOGYI, I. ŠEFERNA, K. MAŠEK and E. S. VIZI ... 171

Regulation of feline aggression by the bed nucleus of stria terminalis.
SHAIKH, M. B., M. BRUTUS, H. E. SIEGEL and A. SIEGEL 179

**Cytology of brain stem neurons projecting to the caudal neurosecretory complex:
An HRP-electron microscopic study.**
MILLER, K. E. and R. M. KRIEBEL 183

Autoradiographic localization of receptors in the cochlear nucleus of the mouse.
FROSTHOLM, A. and A. ROTTER 189

**Cerebellar histamine-H1 receptor distribution:
An autoradiographic study of Purkinje cell degeneration, staggerer, weaver and reeler mutant mouse strains.**
ROTTER, A. and A. FROSTHOLM 205

Identification of polyamines in the cochlea of the rat and their potential role in hearing.
SCHWEITZER, L., J. H. CASSEDAY, A. SJOERDSMA, P. P. McCANN and J. V. BARTOLOME 215

Neurogenesis in subnuclei of the rat interpeduncular nucleus and medial habenula.
LENN, N. J. and S. A. BAYER 219

Superior colliculus lesions and flash evoked potentials from rat cortex.
BARNES, M. I. and R. S. DYER 225

Contents continued

The projections of the dorsomedial hypothalamic nucleus in the rat.
TER HORST, G. J. and P. G. M. LUITEN 231

Do peripheral and cerebroventricular injections of angiotensin II act at the same site? Studies on additivity of drinking.
FREGLY, M. J. and N. E. ROWLAND 249

Factors affecting the ultrastructural pattern of anterograde labeling in axon terminals with HRP.
BORKE, R. C. and M. E. NAU 259

Circling from unilateral VTA morphine: Direction is controlled by environmental stimuli.
WISE, R. A. and L. J. HOLMES 267

Central projections of the hamster superior laryngeal nerve.
HANAMORI, T. and D. V. SMITH 271

Glucose regulates [^{3}H](+)-amphetamine binding and Na^+K^+ ATPase activity in the hypothalamus: A proposed mechanism for the glucostatic control of feeding and satiety.
HAUGER, R., B. HULIHAN-GIBLIN, I. ANGEL, M. D. LUU, A. JANOWSKY, P. SKOLNICK and S. M. PAUL 281

Morphine distribution following infusion into lateral ventricle during hibernation and euthermia.
BECKMAN, A. L. and C. LLADOS-ECKMAN 289

Brief Communications

Effect of electrical stimulation on the viability of the hippocampal slice preparation.
SCHURR, A., K. H. REID, M. T. TSENG, H. L. EDMONDS, JR., C. A. WEST and B. M. RIGOR 299

Cerebral perivascular serotonergic fibres have a peripheral origin in the gerbil.
ALAFACI, C., T. COWEN, H. A. CROCKARD and G. BURNSTOCK 303

Book Reviews 305

BRAIN RESEARCH BULLETIN

VOLUME 16 NUMBER 3 MARCH 1986

CONTENTS

Articles

Attempts to immunoprecipitate the LHRH precursor synthesized in cell free systems.
COHEN, S., J. L. CHARLI, L. DÍAZ DE LEÓN, R. P. MILLAR, A. ARIMURA, M. R. MORRISON and P. JOSEPH-BRAVO 309

Cysteamine effects on somatostatin, catecholamines, pineal NAT and melatonin in rats.
WEBB, S. M., T. H. CHAMPNEY, R. W. STEGER, M. K. VAUGHAN and R. J. REITER 315

Influence of nitrous oxide upon regional brain levels of methionine-enkephalin-like immunoreactivity in rats.
QUOCK, R. M., F. J. KOUCHICH and L.-F. TSENG 321

Lack of change in high affinity glutamate uptake in nucleus tractus solitarius following removal of the nodose ganglion.
SVED, A. F. 325

Modulatory role for prolactin in the elevation of striatal dopamine receptor density induced by chronic treatment with dopamine receptor antagonists.
HRUSKA, R. E. 331

Immunohistochemical study of catecholaminergic cell bodies in the rat spinal cord.
MOUCHET, P., M. MANIER, M. DIETL, C. FEUERSTEIN, A. BEROD, M. ARLUISON, L. DENOROY and J. THIBAULT 341

Kappa opioid receptors in human lumbo-sacral spinal cord.
GOUARDÈRES, C., N. KOPP, J. CROS and R. QUIRION 355

Morphine increases metastatic tumor growth.
SIMON, R. H. and T. E. ARBO 363

Rat strain differences in the acquisition of hippocampal self-stimulation.
ROBERTSON, A., C. CAMPBELL, P. M. MILNER and A. LAFERRIÈRE 369

Involvement of neuronal cell bodies of the mesencephalic locomotor region in the initiation of locomotor activity of freely behaving rats.
BRUDZYNSKI, S. M., P. E. HOUGHTON, R. D. BROWNLEE and G. J. MOGENSON 377

Subpallidal projections to the mesencephalic locomotor region investigated with a combination of behavioral and electrophysiological recording techniques.
MOGENSON, G. J. and M. WU 383

Intranasal vasotocin decreases cerebrospinal fluid 5-HIAA levels in man.
PAVEL, S. 391

Contents continued

Effects of prenatal stress on sexually dimorphic asymmetries in the cerebral cortex of the male rat.
FLEMING, D. E., R. H. ANDERSON, R. W. RHEES, E. KINGHORN and J. BAKAITIS 395

Non-overlapping thalamocortical projections for separate forepaw digits before and after cortical reorganization in the raccoon.
RASMUSSON, D. D. and D. M. NANCE 399

Effect of intragastric and intraperitoneal water and saline loads on the pharmacologic induction of drinking in rats.
FREGLY, M. J. and N. E. ROWLAND 407

Effect of intraperitoneal and intragastric loading with water and isosmotic solutions of saline and glucose on water intake of dehydrated rats.
FREGLY, M. J., J. E. GREENLEAF and N. E. ROWLAND 415

GABA in the PNS: Demonstration in enteric neurons.
BAETGE, G. and M. D. GERSHON 421

Caudate neuronal activity in cats during head turning: Selectivity for sensory-triggered movement.
MANETTO, C. and T. I. LIDSKY 425

Brief Communications

Effects of sleep-promoting substance on rat hypothalamic neuron activity.
INOKUCHI, A. and Y. OOMURA 429

Phase plane tracking: A new method for shaping movements.
COOKE, J. D. and S. H. BROWN 435

A microprocessor device for the real-time detection of synchronized alpha and spindle activity in the EEG.
MORROW, T. J. and K. L. CASEY 439

BRAIN RESEARCH BULLETIN

VOLUME 16 NUMBER 4 APRIL 1986

CONTENTS

Articles

Anatomical mapping of the neuroepithelial projection to the olfactory bulb in the rat.
ASTIC, L. and D. SAUCIER 445

Analysis of the topographical organization of olfactory epithelium projections in the rat.
SAUCIER, D. and L. ASTIC 455

Alpha adrenergic system in medial preoptic area involved in sleep-wakefulness in rats.
MOHAN KUMAR, V., S. DATTA, G. S. CHHINA and B. SINGH 463

Monoamine levels and turnover in brain: Relationship to priming actions of estrogen.
RENNER, K. J., D. L. ALLEN and V. N. LUINE 469

Cholinergic limbic projections and behavioral role of basal forebrain nuclei in the rat.
DOHANICH, G. P. and B. S. McEWEN 477

Effects of psychoactive drugs on operant responding and non-operant activity of rats with hippocampal system damage.
SHULL, R. N. and F. A. HOLLOWAY 483

Inhibitory effects of acetylcholine on aggressive-defense reaction induced by electrical stimulation of the hypothalamus in cats.
KONO, R., N. TASHIRO and H. NAKAO 491

Cortical projections to the nucleus of the tractus solitarius: An HRP study in the cat.
WILLETT, C. J., D. G. GWYN, J. G. RUTHERFORD and R. A. LESLIE 497

Recovery of locomotor function after hemisection of the spinal cord in cats.
EIDELBERG, E., L. H. NGUYEN and L. D. DEZA 507

Typical and atypical antipsychotic occupancy of D_2 and S_2 receptors: An autoradiographic analysis in rat brain.
ALTAR, C. A., A. M. WASLEY, R. F. NEALE and G. A. STONE 517

Optic nerve stimulation-induced increase of release of ^{3}H-glutamate and ^{3}H-aspartate but not ^{3}H-GABA from the suprachiasmatic nucleus in slices of rat hypothalamus.
LIOU, S. Y., S. SHIBATA, K. IWASAKI and S. UEKI 527

The effects of the cholecystokinin antagonist, proglumide, on gonadotropin release in the rat.
VIJAYAN, E. and S. M. McCANN 533

A quantitative study of retrograde axonal transport in motor and sensory neurons.
FINK, D. J., D. PURKISS and M. MATA 537

Rapid Communication

The influence of capsaicin sensitive neurons on stress-induced release of ACTH.
LEMBECK, F. and R. AMANN 541

Contents continued

Brief Communications

Influence of preoptico-anterior and posterior hypothalamus on midline thalamic neurons.
ABDUL ALEEM, V. MOHAN KUMAR, G. K. AHUJA and B. SINGH 545

MEG measurements with SQUID as a diagnostic tool for epileptic patients.
ANNINOS, P. A., M. KOKKINIDIS, M. HOKE, CH. PANTEV, K. LEHNERTZ and B. LÜTKENHÖNER 549

Field potentials from the frog optic tectum in vitro.
SIVILOTTI, L. 553

Laboratory Instrumentation and Computing

An efficient cryoprobe to inactivate cortical surfaces.
MOLOTCHNIKOFF, S., C. MORIN, A. CERAT and L. LAMOTHE 557

BRAIN RESEARCH BULLETIN

VOLUME 16 NUMBER 5 MAY 1986

CONTENTS

Articles

Symptoms and behavioral features induced by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) in an old Java monkey [*Macaca cynamolgus fascicularis* (Raffles)].
DEGRYSE, A.-D. and F. C. COLPAERT 561

Benzodiazepine binding sites: Localization and characterization in the limbic system of the rat brain.
MARCEL, D., D. WEISSMANN-NANOPOULOS, E. MACH and J. F. PUJOL 573

Spectrin expression in neuroblastoma cells.
GOODMAN, S. R., I. S. ZAGON, D. B. COLEMAN and P. J. McLAUGHLIN 597

Cholinergic systems in the rat brain: III.
Projections from the pontomesencephalic tegmentum to the thalamus, tectum, basal ganglia, and basal forebrain.
WOOLF, N. J. and L. L. BUTCHER 603

The effects of purified Mojave toxin on rat synaptic membrane (Ca^{+2}+Mg^{+2})-ATPase and the dihydropyridine receptor.
CHAMBERS, J. P., M. J. WAYNER, J. DUNGAN, E. D. RAEL and J. J. VALDES 639

Analysis of the avoidance learning deficit induced by the serotonin releasing compound p-chloroamphetamine.
ÖGREN, S. O. 645

The laminar distributions and postnatal development of neurotransmitter and neuromodulator receptors in cat visual cortex.
SHAW, C., M. WILKINSON, M. CYNADER, M. C. NEEDLER, C. AOKI and S. E. HALL 661

The effect of calmodulin inhibitors on the release of acetylcholine and protein phosphorylation induced by tityustoxin, K^+ and ouabain.
RIBEIRO, A. M. and M. V. GOMEZ 673

A quantitative and morphometric evaluation of ^{125}I-alpha-bungarotoxin binding in the rat hypothalamus.
MILLER, M. M. and R. B. BILLIAR 681

Changes in cortical acetylcholine output induced by modulation of the nucleus basalis.
CASAMENTI, F., G. DEFFENU, A. L. ABBAMONDI and G. PEPEU 689

Adrenoceptors in the preoptic-anterior hypothalamic area stimulate secretion of prolactin but not growth hormone in the male rat.
WILLOUGHBY, J. O., T. A. DAY, M. F. MENADUE, P. M. JERVOIS and W. W. BLESSING 697

Hypothalamic circuits and circadian rhythms:
Effects of knife cuts vary with their placement within the suprachiasmatic area.
BROWN, M. H. and A. A. NUNEZ 705

Contents continued

Projections of the internal branch of the superior laryngeal nerve of the cat.
LUCIER, G. E., R. EGIZII and J. O. DOSTROVSKY 713

Primary glial cells and brain fibroblasts: Interactions in culture.
ESTIN, C. and A. VERNADAKIS 723

The effect of unilateral decortication on the patterns of pulsatile follicle stimulating hormone (FSH) and luteinizing hormone (LH) release and on mean plasma prolactin (Prl) levels in the ovariectomized rat.
BEDRAN DE CASTRO, J. C., S. L. PETROVIC and S. M. McCANN 733

Involvement of the inferior olivary neurons in vestibular compensation.
MAMELI, O. and E. TOLU 739

Rapid Communications

Central action of atrial natriuretic polypeptide on blood pressure in conscious rats.
ITOH, H., K. NAKAO, N. MORII, T. YAMADA, S. SHIONO, M. SAKAMOTO, A. SUGAWARA, Y. SAITO, G. KATSUURA, T. SHIOMI, M. EIGYO, A. MATSUSHITA and H. IMURA 745

Dose related effects of 6-OHDA on rabbit retinal dopamine concentrations and ERG B-wave amplitudes.
OLIVIER, P., F. B. JOLICOEUR, G. LAFOND, A. L. DRUMHELLER and J. R. BRUNETTE 751

Effects of neurotensin on regional concentrations of norepinephrine in rat brain.
DRUMHELLER, A. L., S. ST-PIERRE and F. B. JOLICOEUR 755

Laboratory Instrumentation and Computing

Osmotic mini-pumps: A convenient program for weight-adjusted filling concentrations.
GREENSHAW, A. J. 759

BRAIN RESEARCH BULLETIN

VOLUME 16 NUMBER 6 JUNE 1986

CONTENTS

Editorial 765

Preface

The neurobiologic consequences of autosomal trisomy in mice and men.
OSTER-GRANITE, M. L. 767

Articles

The neurobiologic consequences of Down Syndrome.
COYLE, J. T., M. L. OSTER-GRANITE and J. D. GEARHART 773

Autosomal aneuploidy in mice: Generation and developmental consequences.
GEARHART, J. D., M. T. DAVISSON and M. L. OSTER-GRANITE 789

Genetic basis for a mouse model of Down Syndrome.
REEVES, R. H., J. D. GEARHART and J. W. LITTLEFIELD 803

Mouse chimeras composed of Trisomy 16 and normal (2N) cells: Preliminary studies.
GEARHART, J. D., H. S. SINGER, T. H. MORAN, M. TIEMEYER, M. L. OSTER-GRANITE and J. T. COYLE 815

Abnormal neural fold development in mouse trisomy 12 and trisomy 14. II. LM and TEM.
MORRISS-KAY, G. and B. PUTZ 825

Ultrastructural analysis of chromosome translocation-induced neural tube defects.
O'SHEA, K. S. 833

Histogenesis of the retina in murine trisomy 19.
LORKE, D. E. and H. WINKING 845

Selective culture medium enhances survival of neuroblasts from postnatal rodent brain.
GILBERT, S. F., M. L. OSTER-GRANITE, W. KIRBY, D. DURIE, D. LYONS and E. GREENE 853

Index to Volume 16 861